BACKGROUND

The Bar Code Medication Administration (BCMA) system is a vital tool to safely and accurately dispense drugs to our veterans. All patient care areas use this system to ensure each veteran is receiving the appropriate drugs and that all passing of medications are accurately cataloged. The BCMA system was an initiative developed by VHA and is used widespread throughout every hospital.

The VACO BCMA group has developed a useful life model for these carts to be only 3 to 4 years. The VISN 3 fleet has carts that have surpassed this useful life and in need of replacement. This technology is critical infrastructure that needs to meet our clinician's needs.

Integrated product teams were developed nationally in order to conduct a market survey of what medication cart and workstations on wheels are currently available that can meet the needs of VA facilities. These teams analyzed the average ages of the medication carts that are currently being used and what vendor the majority of those medication carts were purchased from. Using this information, the features of medication carts available from a number of vendors were compared and this information was distributed to the VISNs.

Additionally, this request calls to standardize our VISN fleet to a standard manufacture. This will allow for improvements in training, service, and veteran safety.

Standardization on equipment exactly as now used, or similar in use, is a matter of patient safety and cost. Problems can and do occur when different systems are in use within the same medical center. Medication carts are one piece of the overall system of medication management (e.g. procurement, storage, dispensing, transportation, security, administration, and documentation). In order for the system to function, all parts of the system are designed to work together and it is imperative that purchased equipment will fit properly into the current medication management system and the workflow of clinical staff.

Analyzing this research and considering the particular needs of VISN3, it was determined that only the medication carts and associated computers available from **Howard Medical** can meet these comprehensive and integrated needs.

REQUIREMENT

VISN 3 is seeking to replace all Bar Code Medication Administration (BCMA) Carts and Computer on Wheels (COWs). There will be an additional purchase of tablet computers that will assist in the BCMA and medication consent process. All devices will allow VISN 3 to continue the BCMA program and add new technology for consent. This will also provide an opportunity to standardize the brand of medication carts, COWs, and tablets deployed throughout the VISN.

The BCMA carts will come in a variety of sizes to provide for different patient needs. All BCMA carts and COWs will include locked drawers and accessories that offer the functionality to dispense medication and supplies in a controlled manner. The types of medication carts and numbers will be provided below in section #4 Per Medication Cart Type Specifications. The type and amount of COWs will be provided under section #4 Computer on Wheels Specifications.

The BCMA cart and COWs will also be capable of interfacing with the existing VA system, in terms of network and integration with the VA's Electronic Health Record system. The operating system must be capable of supporting VA's VistA and CPRS to provide for continued tracking and monitoring of patient care.

In addition, software for monitoring the medication carts, COWs, and tablets at each facility will be included. This will allow those in charge of managing the carts and equipment to provide the ability to monitor alarms, battery life, and generate reports for cart management. A minimum of 3 year warranty will also be included into the quotation above and beyond the initial 1st year. This will provide service and support of the mechanical, electrical, and electronic components of the cart.

Specifications

The VISN 3 BCMA Cart, COWs, and tablet specifications are designed to outline all the VA BCMA coordinators, Biomedical Engineering, and OI&T requirements. These specifications also meet the ECRI criteria.

Computer Hardware Specifications:

Computer workstation:
1. OS: Windows XP and Windows 7 gold images provided by OI&T and interfaces with all VA software systems (PICIS, VISTA, CPRS, and BCMA)
2. Hard drive: Solid State Hard Drives that must be compatible with Guardian Edge encryption software (or another type of FIPS140-2 OI&T approved encryption software). Minimum drive size 128 GB.
3. Laptop: Base Unit: Dell Latitude E6320 or equivalent or better
4. Memory: 6 GB RAM or better.
5. Monitor: 19" (or larger) LCD that is splash proof and cleanable.
6. Wireless Antenna: High Gain and FIPS 140-2 compliant.
7. Processor: Intel i7 (or equivalent) or better.
8. Video Card: Intel HD Graphics 3000,or better
9. Keyboard, Man and Machine Simply Cool (white) washable, sealed, medical grade or better
10. Mouse, SealShield Silver Storm, optical, antimicrobial, washable or better
11. Form Factor: Small enough to be integrated into cart and not exposed

Generic Cart Specifications:

Battery and power supply for carts:
1. Lithium Ion battery or better technology
2. Battery life of 8 hours or better
3. Power Supply and power cord must meet NFPA standards for patient care equipment: 500 milliohms and 500 micro amps.
4. Battery indicator LED readout in user interface location
5. Battery charging time to 100% full charge 3 hours or less
6. Battery life warrantied for 3 years or better
7. Minimum battery cycle life: 600 cycles or more

Physical properties for carts:
1. Splash protection and anti-microbial for all exposed surfaces
2. Sealed design is water resistant and allows for cleaning and disinfecting.
3. All cabling must be integrated into cart with minimal exposure.
4. Option for adding accessories
5. All medication drawers must be interchangeable between all styles of carts.

Centralized Management of carts:
1. Centralized auditing of keypad access with centralized control user codes
2. Centralized management software for carts. Features should include alarm management, battery management, network activity, and optional integration with RTLS (Real time location system).
3. Centralized management software should be web based (preferred) and have integration to our Active Directory system to access.

Per Medication Cart Type Specifications:

Medium BCMA Carts –
1. These carts are portable units that delivery medications at point of care.
2. Footprint of cart: Length: 20 inches, Width: 24 Inches, Height: 47 inches. All measurements can be +/- 4 inches.
3. 18 to 35 lockable medication and/or utility drawers
4. The breakout of drawer types and quantities will be specified by each site's clinical care areas. Quote must provide for maximum scalability.
5. Keypad locks for medication drawers
6. Keypad locks for utility drawers
7. Master override key for all the drawers
8. 4 swiveled caster wheeled base with a minimum of 2 foot brakes
9. Casters must be a minimum of 4 inches
10. At least 1 cup holder
11. Bar Code Scanners must be FIPS 140-2 compliant and be mounted to cart.
12. Computer workstation to meet specification listed in Section 4.1.1.
13. Separate keyboard and mouse tray with washable keyboard and mouse
14. Ergonomically friendly

Computer on Wheels Specifications:

Computer on Wheels Carts

These carts are highly portable unit's that provide for medication consent at point of care. COW Carts should be exactly like Small BCMA COW carts except for 2-4 tier module with medication drawers.

1. 1 lockable utility drawers on a separate module
2. Keypad locks for utility drawers
3. Master override key for all the drawers
4. 4 swiveled caster wheeled base with a minimum of 2 foot brakes
5. Casters must be a minimum of 4 inches
6. At least 1 cup holder
7. Work surface must be a minimum of 20 inches by 15 inches.
8. Bar Code Scanners must be FIPS 140-2 compliant and be mounted to cart.
9. Separate keyboard and mouse tray with washable keyboard and mouse
10. Height adjustment to allow user to sit and/or stand. Keyboard height must vary from 32 inches (+/- 2 inches) to 46 inches (+/- 4 inches).
11. Ergonomically friendly

Cart Specifications WOWs

1. Pushbutton motorized height adjustment Lockable Expanded Height PC compartment (includes double spacers)
2. Large 2ft² work surface.
3. (4) 5" casters with 2 locking casters Universal accessory mount.
4. Slide-out keyboard and mouse surface and mouse pouch Integral AC power distribution and cable management
5. Power Display and Clinical Assistant software Standard Die Cast LCD Mount Includes VESA pattern on rear for mounting of various accessories and computing devices.
6. Rechargeable, high-efficiency power system; for powering devices up to 150W (150VA);
7. Color: Grey/White
8. Integration kit for Dell E-series without docking station (required)
9. Includes 4 port USB hub and right angle USB cable to provide needed clearance on PC's side-mounted USB ports
10. (1) 2 Tier bulk storage drawer – Electronic Locking
11. 2-Tier Upper Storage Drawer Divider Set (4.5" tall) 3 dividers (1 long, 2 short) for up to 6 compartments
12. Wire basket, gray (large, 14x5x8") Includes extender bracket to provide clearance for cord hanger
13. USB Mounting bracket for Honeywell Xenon 1902 wireless scanner, 6" tall